



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D3391-013
Job Sheet 178430



Part No: D3391-013

Job Qty: 1 ea

Part Name: Mid Tube Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 5/31/18

Job Tracking No:

Due Date: 6/8/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV J SHEET 6 IPP A 05.12.13 New Issue EC IPP B IPP Rev:06-03-28 Update Manufacturing Instructions JLM IPP Rev:E ECN 1056-07-11-13 DD verified by: EC IPP Rev:F 08-07-28 chg 0.332" to 0.391" dim. hole in comment DD verified by:EC IPP Rev:G 08-09-08 new process (ecn 08-510) DD verified by:EC IPP Rev:H 08-09-10 revH as per dwg DD verified by:EC IPP rev J 10.03.30 revised process, added D3391-015 to pick list EC verified : DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		6/8/18	0.00	0.00	Start Up Skidtubes-1		MCG
100	Skidtubes	1 pcs		6/8/18	0.00	2.98	Skidtubes-4		MCG
110	QC	1 pcs		6/8/18	0.00	0.00	QC5		Di-08-DI
120	HandFinish	1 pcs		6/8/18	0.00	0.73	HandFinish1		SA 18-08-01
130	QC	1 pcs		6/8/18	0.00	0.00	QC7-2		MCG
140	Skidtubes	1 pcs		6/8/18	0.00	2.98	Skidtubes-3		J.Y
150	QC	1 pcs		6/8/18	0.00	0.00	QC5		BE
160	Skidtubes	1 pcs		6/8/18	0.00	2.98	Skidtubes-3		BE
170	QC	1 pcs		6/8/18	0.00	0.00	QC10		38 DAS
180	QC	1 pcs		6/8/18	0.00	0.00	QC5		9-89 38
185	HandFinish	1 pcs		6/8/18	0.00	0.73	HandFinish2		D.R 18/09/10
190	SprayPaint	1 pcs		6/8/18	0.00	0.63	Spray Paint		N.R DAS
200	QC	1 pcs		6/8/18	0.00	0.00	QC14		SEP 2 0 2018 38
230	HandFinish	1 pcs		6/8/18	0.00	0.73	HandFinish4		14-0-4-2 9-89
250	HandFinish	1 pcs		6/8/18	0.00	0.73	HandFinish4		21-0-4-2 7
260	QC	1 pcs		6/8/18	0.00	0.00	QC5		DAS
270	Packaging	1 pcs		6/8/18	0.00	0.00	Packaging3-1		SEP 2 5 2018
280	QC21-SA	1 Ea		6/8/18	0.00	0.00	QC21		SEP 2 5 2018 21

Part Op 100 - Cut tube to finish length as per Dwg D3391-1-Drill pilot holes using DT8796 (Including "B" holes) and drill only 1
Descriptions: fwd saddle hole on one side only as per Dwg D3391-1-Open saddles and GHW holes to Ø0.4375" except for fwd saddle
hole-Remove .030" from Fwd indexing Ridge as per Dwg D3391-1-Remove indexing ridge on Fwd & Aft end of skidtube
as per Dwg D3391-6- Drill wearplate holes section L-L only using DT8217, DO NOT open to finish size ***DO NOT DRILL
HOLES #3-19-20 FROM FWD END OF JIG*** Locating from two fwd wearplate holes in D3391-013 drill remaining 6
wearplate holes in D3391-011 using DT8937-7- Locate electric step holes at 39.6875" from fwd end and drill using DT 9612
8- Transfer drill Electric Step holes into D3391-015 locate from wearplate holes. D3391-015 Batch: 5079256
9-Deburr, scribe batch # on aft end. 10- Locate D3391-011 in D3391-013 at 9.00" (see view z-z) 11- Transfer drill one fwd
saddle hole only to .188" dia, transfer drill all remaining fwd saddle holes using DT 8149 locating from previously drill .188"
dia hole, using clicos to ensure perfect allingment, open up previously tranfer drilled pilot holes in D3391-013/-011, using
drill press. ON FIRST SIDE ONLY drill out 2nd and forth fwd saddles holes to 0.500" as per ON 2ND SIDE ONLY ream
out 2nd and forth saddle hole to 0.499". D3391-011 BATCH: 5076960 ***DO NOT DRILL HOLES #3-19-20
FROM FWD END OF JIG*** Locating from two fwd wearplate holes in D
140 - 1- Prepare for welding 2- Bond web in place as per Dwg D3391 & QSI 015. *****Ensure Web Alignment ***** A/R

FWD

AFT

Plex 5/31/18 12:50 PM Dart Aerospace Marie Lajeunesse
SEP 1 0 2018
SEP 1 0 2018

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

Date : _____

DISPOSITION

AGAINST DEPARTMENT/PROCESS

ss tube ☐all Fab ☐ishing ☐osite ☐Water Jet ☐Prod. Eng. Coord. ☐Rec/Store/Packaging ☐Supplier ☐Engineering ☐Quality ☐Other ☐

MRB (QSI042) Approval

Completed By

Lead hand / Supervisor
Approval VerificationQC / QA Coordinator
Approval

Root Cause

FAULT CATEGORY

Environment ☐Design ☐Doc/Data ☐Equip/Tooling ☐Handling/Pre ☐Material ☐Internal Transport ☐Tribal Knowledge ☐LOA ☐Substation ☐Past Expiry Date ☐Misidentified ☐Onset/Setup ☐Supplier ☐Training ☐Use for Testing ☐Poor Information ☐Rushing ☐Product Improvement ☐Process Improvement ☐Manufacturing Process ☐Past Due ☐Reinforced ☐Bending ☐Centre Not Concentric ☐Cracks ☐Crimp/Kink/Ripple/Wave ☐Cuffs ☐Crushing ☐Heat Treat ☐Wave/Twist in Tube ☐Marks/Chatter ☐OTHER : ☐Temperature/Cure ☐Set-up ☐BOM/Route ☐Broken/Damage/Defect ☐Inspection Incomplete/Unqualified ☐Contamination ☐Countersink ☐Cut Too Short ☐Instructions Incomplete/Unclear ☐Drill Holes ☐Power Loss/Surge ☐Folio/Program ☐Grain ☐Weld ☐Wrong Stock Pulled ☐Out of Sequence ☐Off-set ☐Mislabeled ☐Fit/Function ☐Misaligned/off center ☐Positioned Wrong ☐Outside Dimensions ☐Over/Under tolerance ☐Part Incorrect ☐Part Lost/Missing ☐Part Moved ☐Drawing ☐Finish ☐Misread ☐Turning Sequence ☐

Sikaflex Batch: NR00070 Exp. date: March 2019
 150 - 1-Weld crossbolt spacer as per dwg D3391 & QSI 004 A/R ALUM Batch: 138034 2-grind weld flush 3-
 Transfer drill electric step pilot holes only from D3391-013 into D3391-015 D3391-013 BATCH: _____ 4- Open
 electric step holes 0.391" per dwg D3391 (section L-L) 5- Open electric step holes 0.297" per dwg D3391 (section M-M) 6-
 Open electric step holes 0.250" per dwg D3391 (section LL-LL)
 185 - AND REALODINE AS PER PAR09-043
 190 - PRIME AS PER DWG AND QSI005 4.2.1.3.3 PRIMER BATCH: _____ PAINT AS PER DWG AND
 QSI005 4.2.2.4 PAINT: _____
 230 - 1- press fit D3591-1 spacers using DT9416 starting from 0.500" side 2- Install inserts
 250 - Assemble as per dwg D3391

Job BOM

Part / Item	Component Name	Quantity	Operation
D2500-1-100	Skidtube Extrusion	1 Ea (1 ea)	90-Start up Operation
MS27039C4-08	Screw	4 Ea (4 ea)	90-Start up Operation
D3389-1	Web	1 Ea (1 ea)	140-Skidtubes
D3681-1	Spacer	12 Ea (12 ea)	160-Skidtubes
ALS4-428-165	Insert	4 Ea (4 ea)	230-HandFinish
D3591-1	Bushing	2 Ea (2 ea)	230-HandFinish
ALS4-1032-130	Rivnut	26 Ea (26 ea)	250-HandFinish
D3672-1 <u>F163255 x2</u>	Washer, Phenolic	4 Ea (4 ea)	250-HandFinish
D3672-3	Washer, Phenolic	4 Ea (4 ea)	250-HandFinish
MS27039C1-09	Screw <u>FM113590862</u>	4 Ea (4 ea)	250-HandFinish
NAS1149C0332R	Washer	4 Ea (4 ea)	250-HandFinish
NAS1149C0432R	Washer	4 Ea (4 ea)	250-HandFinish

005634
 Container

B163253
FM1126314
5063885
5103210
5058142
5002403
5007274
F163255-1
F132639
x FM1132908
5031663
505002-1

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2500-1-100	1	44	0
	MS27039C4-08	4	226	0
140-Skidtubes	D3389-1	1	20	0
160-Skidtubes	D3681-1	12	44	0
230-HandFinish	ALS4-428-165	4	108	0
	D3591-1	2	23	0
250-HandFinish	ALS4-1032-130	26	13,829	0
	D3672-1	4	1,088	0
	D3672-3	4	1,355	0
	MS27039C1-09	4	92	0
	NAS1149C0332R	4	6,681	0
	NAS1149C0432R	4	2,195	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					



Dart Aerospace Ltd.
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Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041016**

Supplier: ATE003-VC
Atelier Debosselage
358 Principale
Calumet
QC
J0V 1B0 Canada
Phone: 819 242 5633

PO No: PO041016
PO Date: 9/14/18
Due Date: 9/17/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Lavoie, Chantal
Phone: clavoie@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	177479	D3391-011	Fwd Tube Assembly : Various STC's	Firmed	-	9/17/18	1 pcs	0 pcs	1 pcs	\$380.00/pcs	\$380.00
						1 X SEP 19 2018					
2	178458	D3391-013	Mid Tube Assembly : Various STC's	Firmed	-	9/17/18	1 pcs	0 pcs	1 pcs	\$380.00/pcs	\$380.00
						1 X SEP 19 2018					
	178430			Firmed		9/17/18	1 pcs	0 pcs	1 pcs	\$380.00/pcs	\$380.00
						1 X SEP 19 2018					
Sub Total:							2	0	2		\$760.00
3	178431	D3391-015	Aft Tube Assembly : Various STC's	Firmed	-	9/17/18	1 pcs	0 pcs	1 pcs	\$380.00/pcs	\$380.00
						1 X SEP 19 2018					
	178460			Firmed	-	9/17/18	1 pcs	0 pcs	1 pcs	\$380.00/pcs	\$380.00
						1 X SEP 19 2018					
Sub Total:							2	0	2		\$760.00
Grand Total:										\$1,900.00	

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 9/17/18 9:00 AM dart.lavoie.chantal



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1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

SUBCONTRACT SHIPPER

SUBCONTRACT SHIP TO

Ship To: Atelier Debosselage
358 Principale
Calumet, QC J0V 1B0 Canada
Phone: 819 242 5633 **Fax:**

SHIPPER

Shipper No: 624
Shipper Date: 9/17/18
Carrier: *
Ship Via:
Vehicle Reg:
Note:
Freight Terms:

Part Information

Part No: D3391-011 **Name:** Fwd Tube Assembly
Cust Part No: **Product Family:** Landing Gear
Reference No: **Piece Weight:** 0 lbs
Part Information Note: DWG REV J SHEETS 3,5 IPP A 05.09.13 New issue
KJ/JLM IPP B IPP C 07.03.13 revF dwg ec IPP D
07.11.01 ecn1053P EC IPP Rev:E ECN 1056 07-11-
12 DD verified by:EC IPP Rev:F 08-09-08 new
process (ecn 08-510) DD verified by:EC IPP Rev:G
08-09-10 revH as per dwg DD verified by:EC IPP
Rev:H 10.04.07 add part in bom DD verified by:JLM
IPP Rev:I 11.11.14 AS PER REV.I DD verified by:JLM
Alloy Type:
Alloy - Temper: -
Description: Various STC's
Quantity:
Drawing No:
Program:
Program Customer:
Addl Docs:
Commercial: Product Line: Landing Gear - Spare
Primary OEM Application: Bell
Manufacturer: DART
Advertised on web?: Yes

OPERATION

Operation: Outsource - 245
Description:
Note:

DETAIL

Part	Operation	PO	Job	Container	Heat Code	Net Weight (lbs)	Gross Weight (lbs)	Quantity
D3391-011	Outsource	PO041016	177479	S076677		0	0	1
D3391-013	Outsource	PO041016	178458	S077079		0	0	1
			178430	S078351		0	0	1
D3391-015	Outsource	PO041016	178431	S079224		0	0	1
			178460	S079256		0	0	1
			Total	5		0	0	5

Driver Signature

Customer Copy

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